

Claims

1. A zirconium-based alloy, suitable for use in a corrosive environment, where it is subjected to increased radiation, wherein the alloy, in addition to zirconium and for zirconium of a reactor quality normal contents of impurities, comprises 0.5-1.6 percentage by weight Nb and 0.3-0.6 percentage by weight Fe, characterised in that it comprises 0.5-0.85 percentage by weight Sn.
2. A zirconium-based alloy according to claim 1, characterised in that the content of Sn in the alloy is larger than or equal to 0.65 percentage by weight.
3. A zirconium-based alloy according to claim 1 or 2, characterised in that it comprises up to 0.2 percentage by weight Ni.
4. A zirconium-based alloy according to any one of the claims 1-3, characterised in that it comprises up to 0.6 percentage by weight Cr.
5. A zirconium-based alloy according to any one of the claims 1-4, characterised in that the total content of Nb and Sn is larger than or equal to 1.15 percentage by weight.
6. A zirconium-based alloy according to any one of the claims 1-5, characterised in that the alloy constitutes at least a part of a component in a nuclear energy plant.
7. A zirconium-based alloy according to claim 6, characterised in that said component constitutes a part of a fuel assembly.

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8. A component in a nuclear energy plant, characterised in that it comprises an alloy according to any one of the claims 1-5.

5 9. A component according to claim 8, characterised in that it constitutes a part of a fuel assembly.

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10 10. A component according to claim 8 or 9, characterised in that it defines a cladding tube for nuclear fuel.

10 11. A component according to claim 10, characterised in that at least a part of the inner circumference of the component comprises a layer of a material which is more ductile than said alloy.

15 12. A component according to claim 11, characterised in that said layer comprises a zirconium-based alloy with a total content of alloying elements which does not exceed 0.5 percentage by weight.

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